

City of San Diego



Actions for a Sustainable Future November 2002

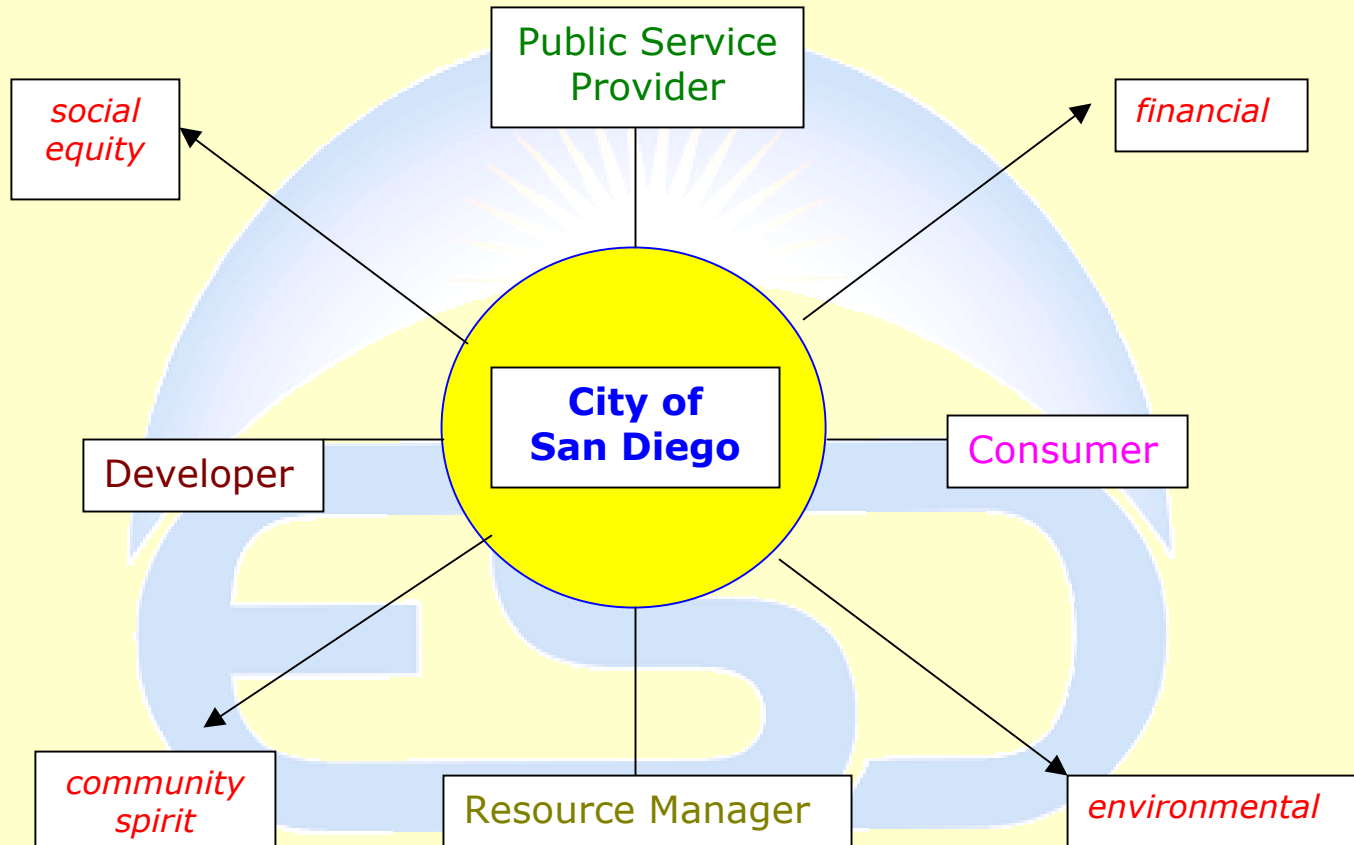


SAN DIEGO, CALIFORNIA

- **Seventh largest city in the USA**
- **Population: 1,223,400**
- **Area: 331 square miles**
- 52 miles long from north to south



City Roles and Influence





San Diego Sustainable Community Program

The Objectives:

- **complement ongoing efforts within the City organization**
- **shepherd more sustainable practices throughout the community**



San Diego Sustainable Community Program

The Tools:

- **identify opportunities to provide services in a more sustainable manner**
- **track progress of projects selected for implementation**
- **assist in developing tools and guidelines for improvement**
- **periodically evaluate policy decisions and City actions in terms of their long-term impact**

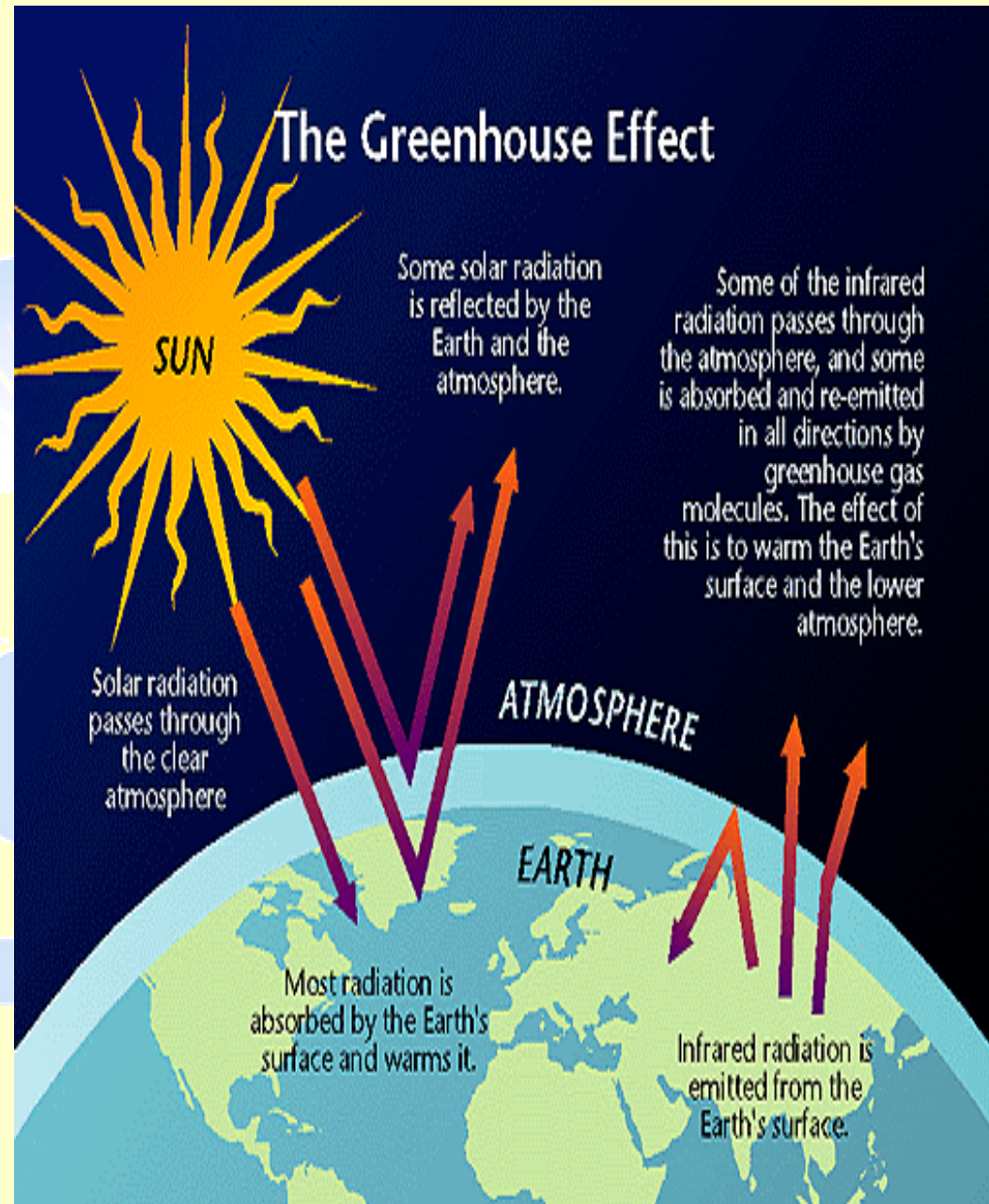
Action

**Track the progress of
actions related to the
*San Diego Sustainable
Community Program*
Indicators**



Action

**Commitment
as a “Cities for
Climate
Protection”
(CCP) Partner
15% reduction
of GHG by
2010, based on
1990**



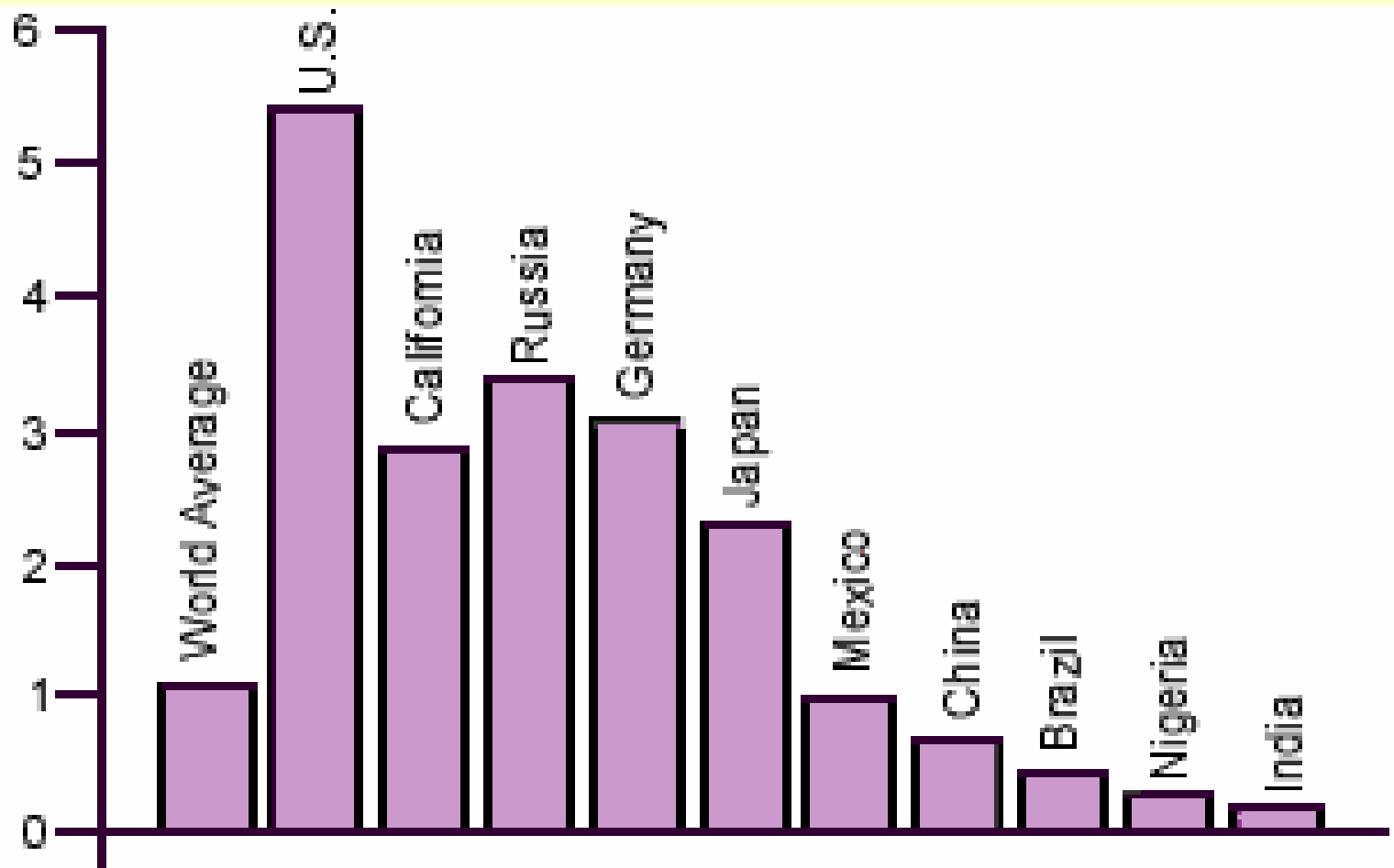
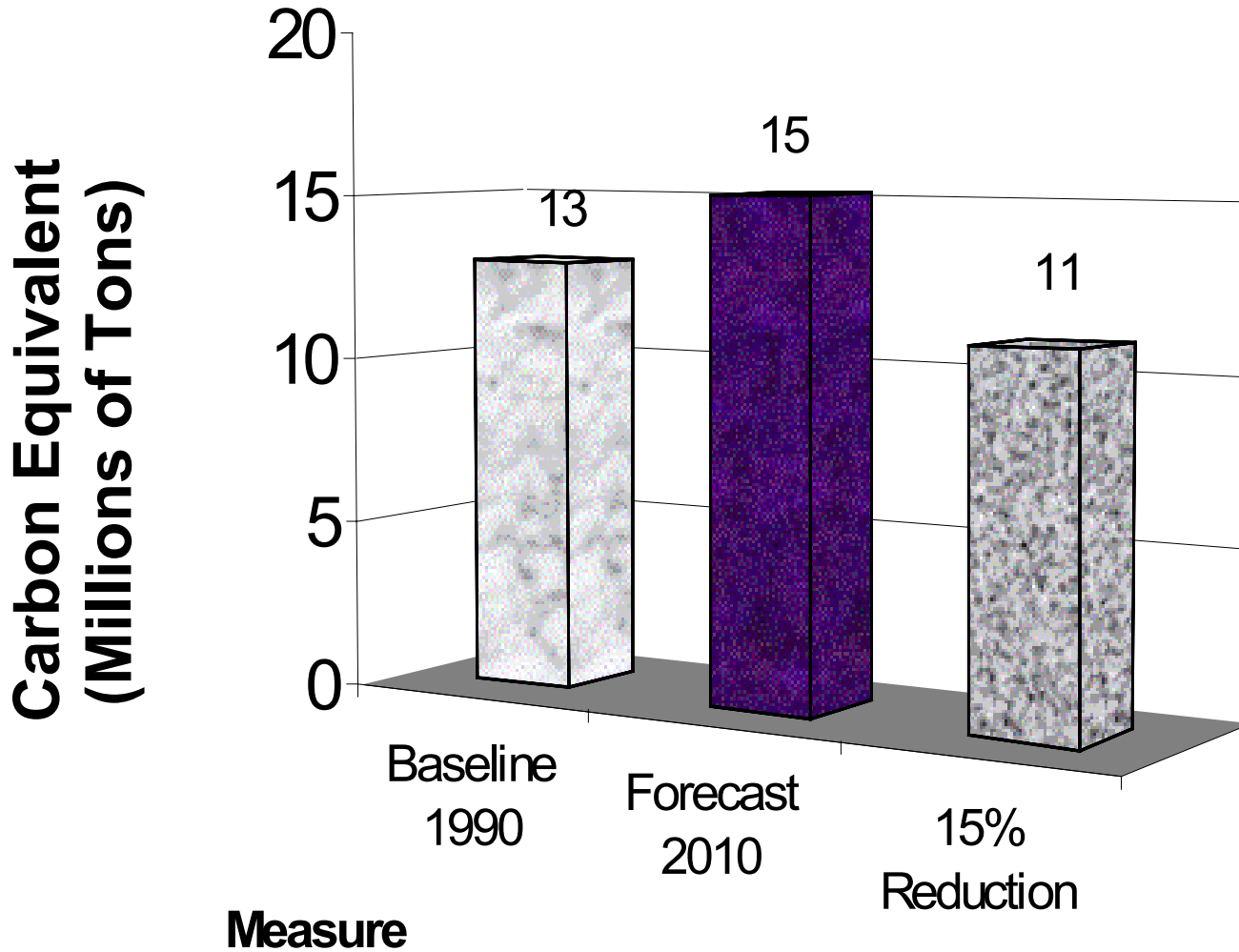


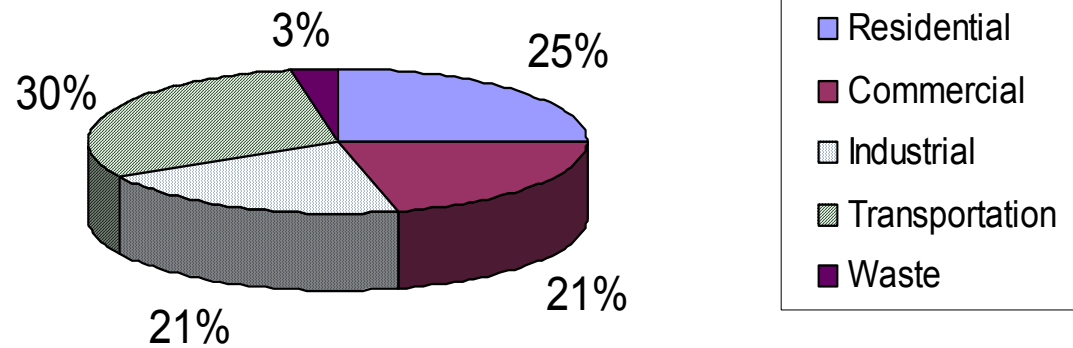
Figure 1. Annual Per Capita Carbon Emissions

Data applies to the late 1990s and is given in metric tons (1 metric ton is about 1.1 English tons)

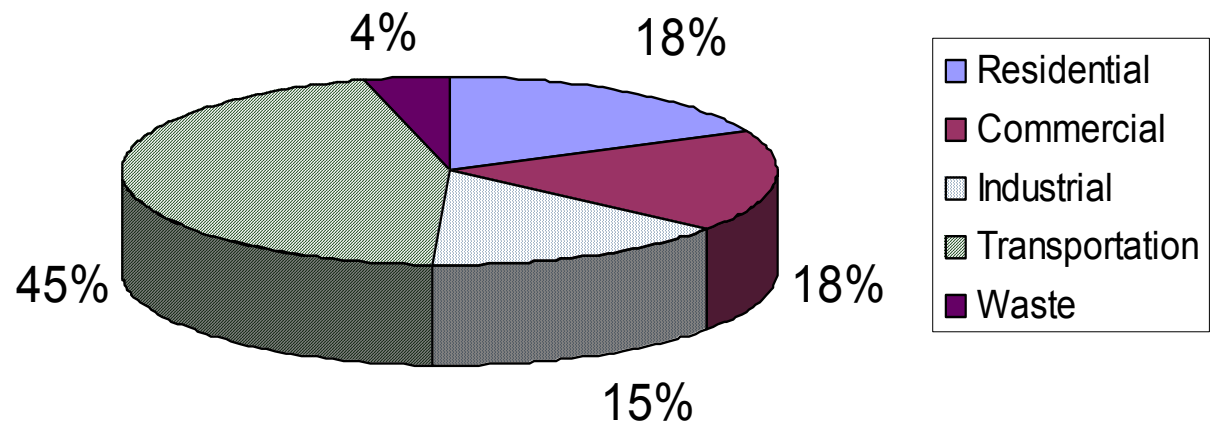
Greenhouse Gas Emissions



1990 Baseline Greenhouse Gas Emissions

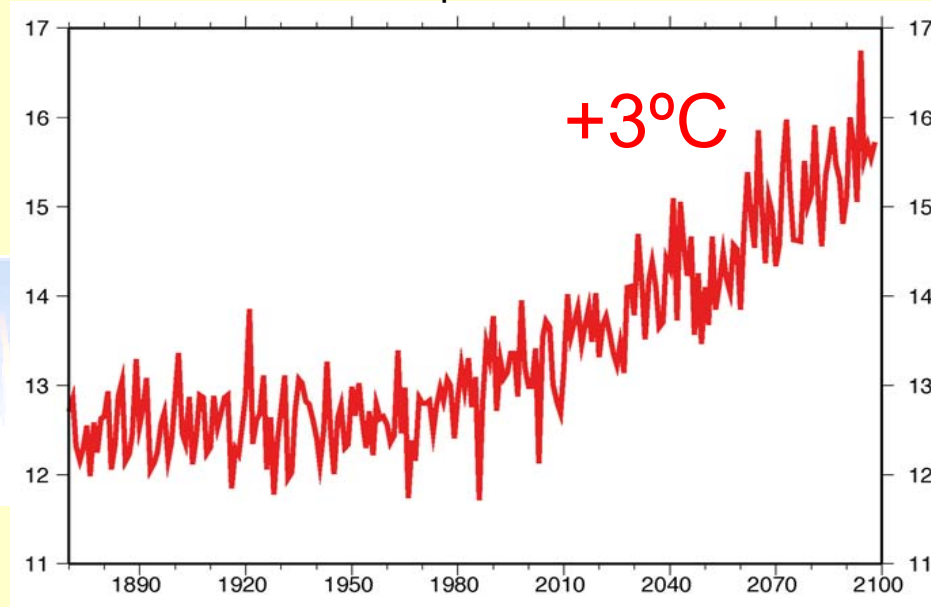


2010 Baseline Greenhouse Gas Emissions

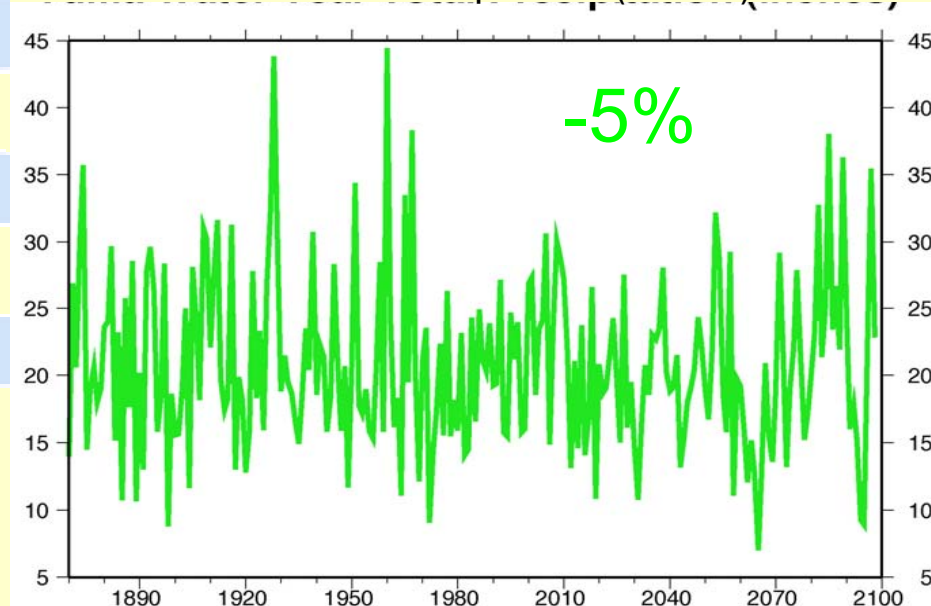


In the near future, global-warming trends are likely to be superimposed upon the 'normal' climate variations that our infrastructures and histories have accommodated...

Southwest Annual Temperatures, 1870-2100



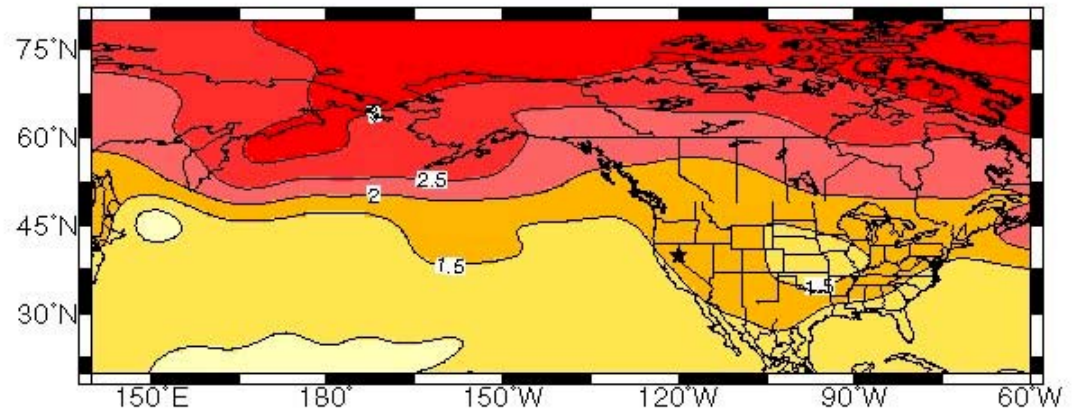
Southwest Annual Precipitation (inches)



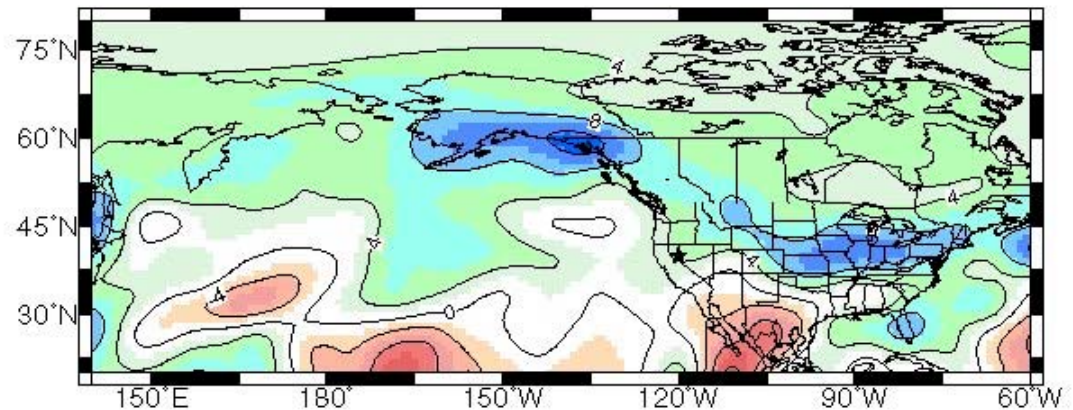
Climate-change projections for San Diego are somewhat moderate, reflecting San Diego's transitional climate setting.

CHANGES IN PROJECTED 30-YR NORMALS
2098 MINUS 2025

(a) Air Temperature, in degrees C



(b) Precipitation, in cm/year

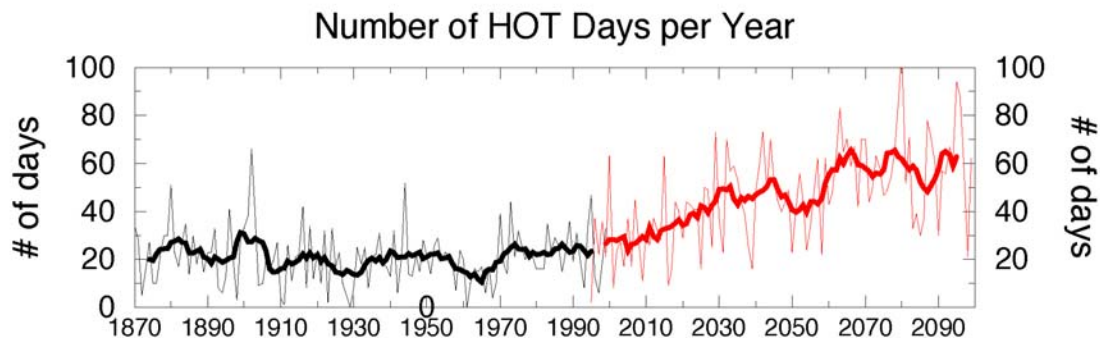
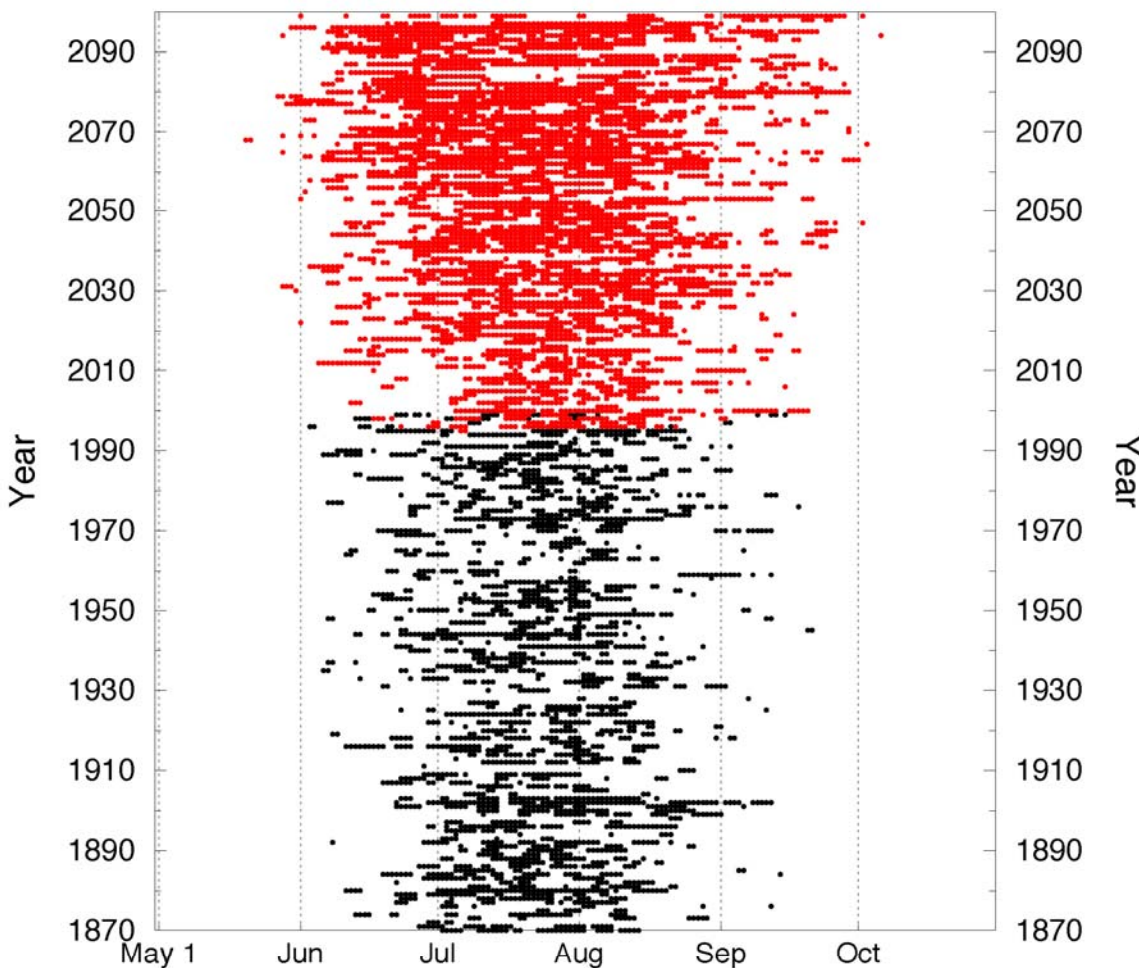


Even these moderate climate changes in average conditions translate into large changes in the extremes, *at both the warm end and the cold end.*



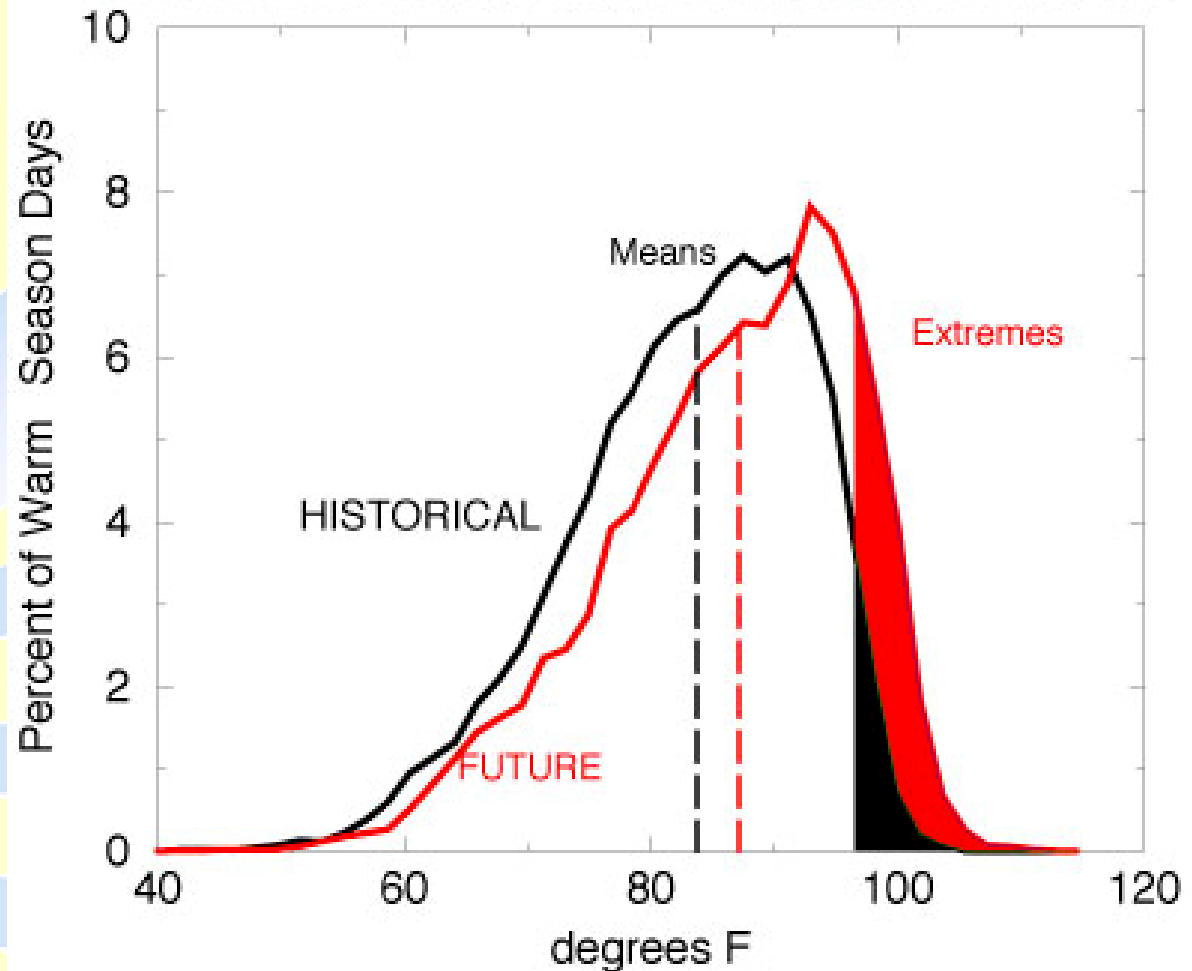
SOUTHWEST HEAT WAVES

Tmax > 95F (from PCM historical and business-as-usual simulations)



These large changes in the extremes are due to the shapes of the statistical distributions of important climate variables.

SOUTHWEST WARM-SEASON TEMPERATURES for PCM historical and business-as-usual simulations

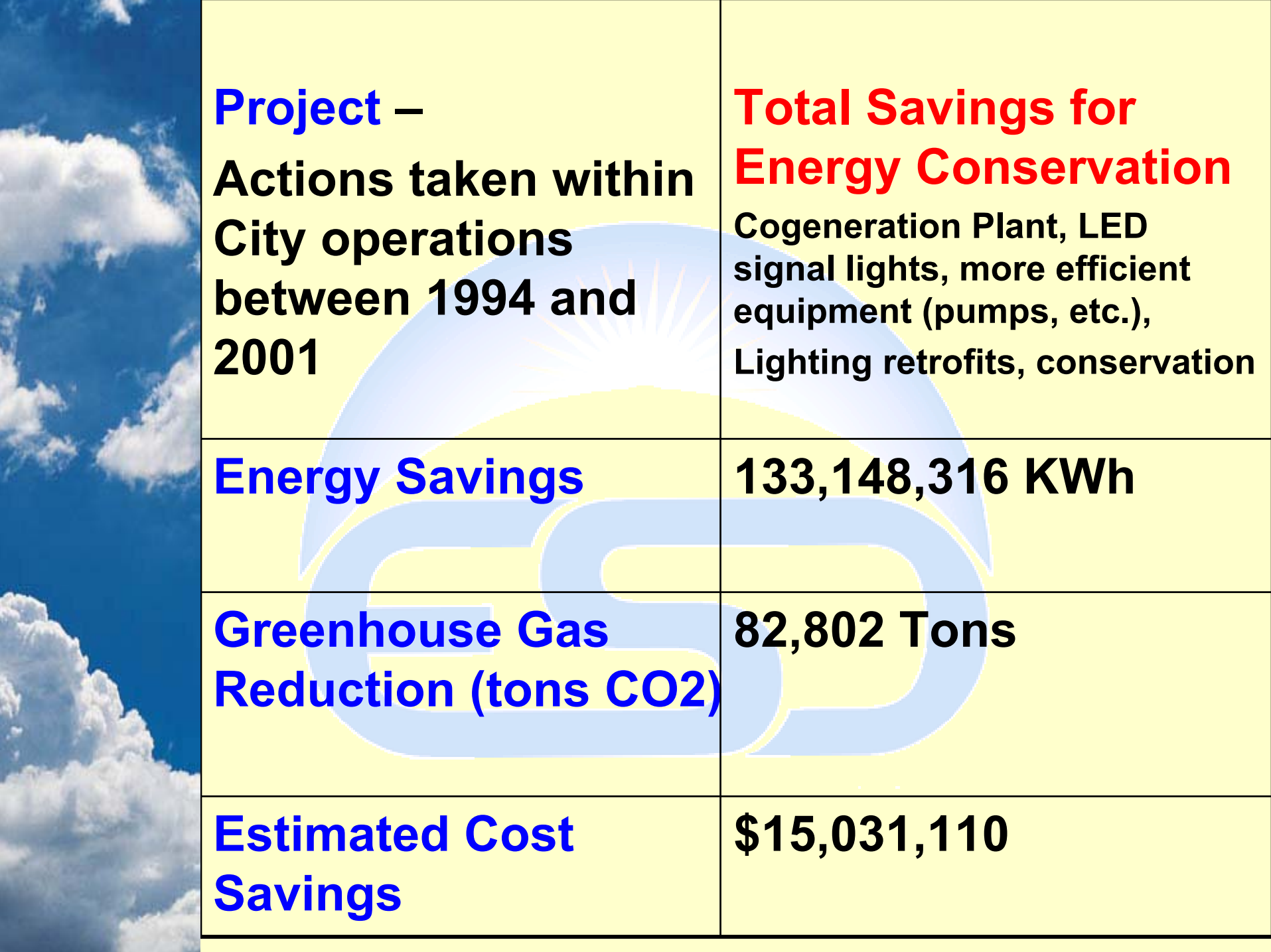


Issue for Consideration by the Mayor and City Council

- **Why did the City of San Diego decided to become a Charter Member of the California Climate Action Registry?**

BENEFIT of Charter Membership

The State of California has offered its best effort to protect early actions in the event of any future state, federal or international GHG regulatory requirements.



Project –
Actions taken within
City operations
between 1994 and
2001

Total Savings for
Energy Conservation

Cogeneration Plant, LED
signal lights, more efficient
equipment (pumps, etc.),
Lighting retrofits, conservation

Energy Savings

133,148,316 KWh

Greenhouse Gas
Reduction (tons CO₂)

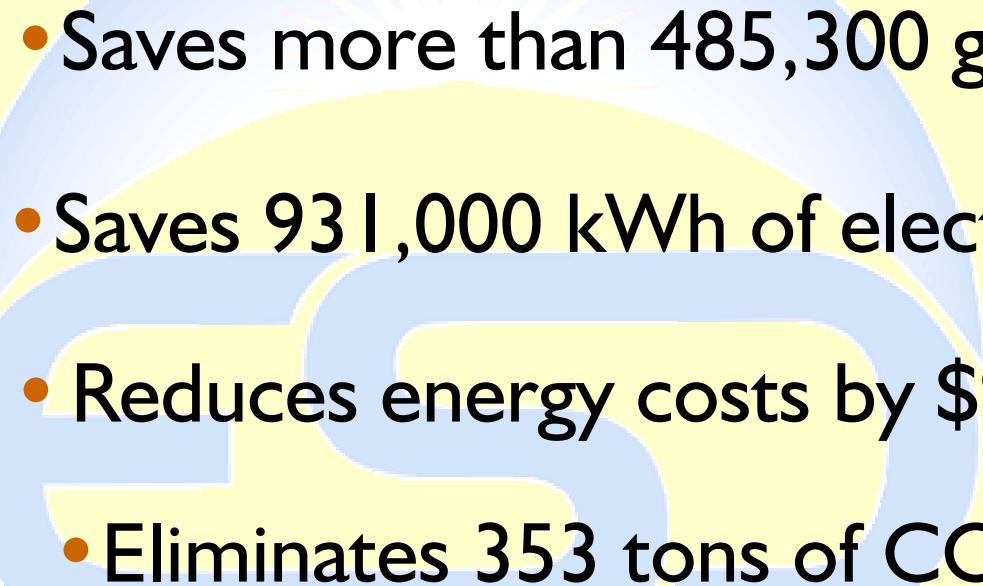
82,802 Tons

Estimated Cost
Savings

\$15,031,110



“GREEN BUILDING’S” CURRENT YEARLY SAVINGS

- 
- Saves more than 485,300 gal water
 - Saves 931,000 kWh of electric power
 - Reduces energy costs by \$90,000
 - Eliminates 353 tons of CO₂

GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

- Reduces mileage by 20% with the incorporation of RouteSmart software.
- Partially activated, and has already saved:
 - 23,000 miles/year
 - 11,500 gallons of fuel.
 - 129 tons of CO₂

PHASE I: **FLEET MODIFICATION**

- **Convert heavy duty (55,000 lb.) refuse packers to a dual fuel LNG-diesel system.**
- **This dual system will reduce oxide emissions by 37.5%.**
- ✓ **Initial conversion of 56 vehicles will:**
 - **Reduce diesel fuel consumption by 561,600 gallons per year.**
 - **Reduce emissions by 1,800 tons of CO₂ per year**

24 megawatts of renewable energy generated at City facilities

Reduced carbon dioxide emissions are
equal to taking more than 6,000 cars off
the road.

OR

The carbon dioxide absorbed by
approximately 8,680 acres of trees.

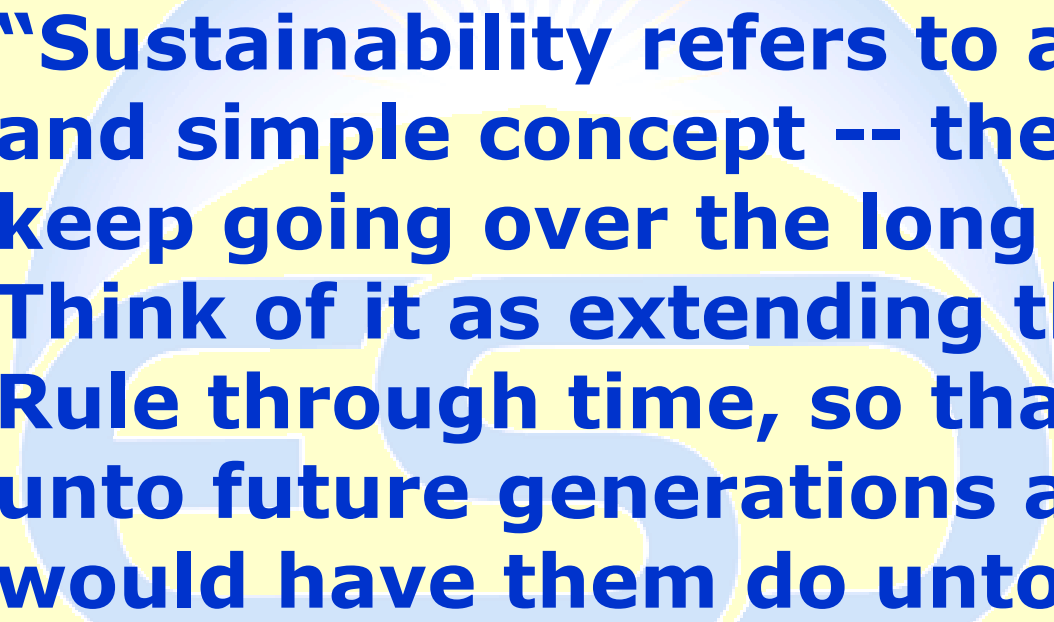


Future Projects

- **Evaluation of Alternative Energy Systems for Balboa Park**
- **Evaluation of Alternative Fuel and Alternative Vehicles for City Fleet**
- **Sustainable Purchasing Policy in process**
- **Annual Report related to Indicators**



What is Sustainable Development?



“Sustainability refers to a very old and simple concept -- the ability to keep going over the long haul. Think of it as extending the Golden Rule through time, so that you do unto future generations as you would have them do unto you.”

Robert Gilma



Actions for a Sustainable Future



**...leaving the legacy
of a city worthy of
affection for many
generations to come.**